Research article
Ερευνητική εργασία

Anxiety and depression in primary care patients suffering of rheumatoid diseases

A. Zartaloudi,[1] I. Koutelekos,[1] M. Polikandrioti,[1]
S. Stefanidou,[1] D. Koukoularis,[2] E. Kyritsi[1]

[1]*Department of Nursing, University of West Attica, Athens,*
[2]*"Konstantopouleio" General Hospital of Nea Ionia, Athens, Greece*

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Rheumatic diseases are chronic debilitating conditions with a known association with anxiety and depression. Individuals with rheumatic diseases experience more psychological distress as these conditions mostly follows a painful, progressively disabling course. The aim of this study was to assess the levels and explore factors associated with anxiety and depression experienced by Greek patients with rheumatic diseases. The sample consisted of 108 patients with rheumatic diseases who visited a rheumatology outpatient clinic. Data collection was conducted using a questionnaire which included patients' characteristics and the Zung Self-Rating Depression Scale (SDS) and Anxiety Scale (SAS). Of the 108 patients in the current study, 44.6% and 41.5% were assessed with depression and anxiety, respectively. Among patients exhibiting depression, 13% had severe depression, with the rest having moderate (12%) and mild (19.6%) severity of depression. Among patients exhibiting anxiety, the majority (20.2%) exhibited mild anxiety, whereas 17% of patients exhibited moderate and 4.3% severe anxiety. Higher levels of depression were experienced by those who experienced severe pain (p=0.001), those who were relapsed (p=0.008), those who had quitted their job due to health limitations (p=0.021), those who had the experience of a miscarriage (p=0.021) and those who used antidepressant or antianxiety medication (p<0.001). Higher levels of anxiety were experienced by female (p=0.011), the unemployed (p=0.047), those who experienced severe pain (p<0.001), those who were relapsed (p=0.015) and those who used antidepressant or antianxiety medication (p<0.001). Individuals with rheumatic diseases should be monitored for accompanying anxiety or depression during follow-up. Given their high prevalence, their profound impact on quality of life, and the range of effective treatments available, health care providers should be encouraged to screen all patients for both anxiety and depression. It is important to assess patients' characteristics when implementing strategies to confront with psychiatric disorders in this vulnerable population group.

Key words: Anxiety, depression, rheumatic diseases, pain, primary care.

Introduction

Rheumatic diseases represent a broad spectrum of usually chronic conditions that can affect multiple organs or/and systems. Rheumatic conditions are characterized by joint inflammation, great pain, stiffness, tiredness, deformities and physical impairment, which often leads to functional disability and threatens the ability to perform regular daily activities.[1] As a result, rheumatic diseases represent a major public health problem recognized as the leading cause of disability in the USA.[2] Regarding the Greek general adult population, rheumatic conditions are the first cause of chronic health problems, long- and short-term disability, and physician office visits.[3]

Prevalence of anxiety and depression is higher in patients suffering of rheumatoid diseases compared with healthy individuals.[4–6] Psychiatric morbidity in rheumatological disorders has been associated with increased pain,[7] increased levels of physical disability[8] and reduced health-related quality of life.[6] Specifically, patients with rheumatic diseases and comorbid depression and anxiety have increased health service utilization which, may, in turn, cause an increase in health care costs.[9]

The aim of the current study was to assess the levels of anxiety and depression and identify clinical and psychosocial factors associated with anxiety and depression experienced by Greek patients with rheumatic diseases treated at a public outpatient rheumatology clinic in Athens.

Material and method

The sample consisted of 108 patients, attending a Greek rheumatology outpatient clinic with the use of Public Social Insurance, located in Athens, between July 2015 and July 2016. It is a convenience sample of patients visiting periodically the specific clinic as outpatients during their regular follow up assessment. This study was conducted in accordance with the Helsinki declaration and was approved by the local Institutional Research and Ethics Committee. All patients participated only after they had given their written consent. Data collection guaranteed anonymity and confidentiality. Patients who presented inadequate knowledge of the Greek language and inability to effective oral verbal communication were excluded. Overall participation rate was 86.4% and no significant difference, in terms of sociodemographic and clinical variables, was noticed between non-responders and responders.

Participants were asked to complete a sociodemographic questionnaire, as well as the Zung Self-Rating Depression Scale (SDS)[10] and the Zung Self-Rating Anxiety Scale (SAS).[11] Zung SDS and SAS each comprise an evaluation of 20 depression and anxiety symptoms and signs in an ascending numerical manner (each item scores from 1 to 4 points), with higher scores reflecting higher intensity of the relevant symptomatology. The SDS is a validated 20-item self-report questionnaire with four response options per item, translated and validated in the Greek language[12] that is widely used as a screening tool, covering affective, psychological and somatic symptoms associated with depression. A total score is derived by summing the individual item scores, and ranges from 20 to 80, with a score of 50 or greater indicating depression. Most people with depression score between 50 and 69, while a score of 70 and above indicates severe depression. The scores provide indicative ranges for depression severity that can be useful for clinical and research purposes, but the SDS scale cannot take the place of a comprehensive clinical interview for confirming a diagnosis of depression. SAS is a self-report assessment device that has been widely used in research and in clinical practice for the detection of anxiety. SAS consists of 20 items rated on a 1–4 Likert type scale. Five of the items are reverse scored. Answering the statements, a person should indicate how much each statement applies to him or her. Overall assessment is done by total score. The total SAS score range from 20 (no anxiety at all) to 80 (severe anxiety), with 20–44 as normal range, 45–59 mild to moderate anxiety, 60–74 severe anxiety, 75–80 extreme anxiety.

Statistical analysis

The descriptive data is reported using frequencies, percentages, means and standard deviations. Student's t test for two groups or ANOVA (analysis of variance) for more than two groups of inde-

pendent variables was applied. The analysis was performed with the SPSS Statistical software package, version 23.0. The significance level was set at 0.05.

Results

The vast majority of our participants were Greek (96.3%), >50 years old (47.22 %), women (61.1%), married (55.56%), with children (71.3%), employed (66.67%), and had at least attended secondary school (86.12%) living in the broader area of Athens (75.94%). 37.96% of the participants included in this study stated that they had left their job due to health-related reasons. Rheumatoid arthritis was the most common rheumatic disease (45.37%), followed by psoriatic arthritis (23.15%), ankylosing spondylitis (20.37%), and systemic lupus erythematosus (11.11%). Disease duration ranged from 1 month to more than 10 years. The 91.67% of our participants were under rheumatologic drug therapy, 68.52% of the patients had inactive disease or limited symptomatology, which means that they had achieved clinical remission, 46.29% of the patients reported no or mild pain (0-2), 28.7% of them also received antidepressant or antianxiety medication, 22.22% had experienced a miscarriage in the past, 48.1% stated that another individual from their friendly or family environment was suffering from a rheumatic disease and 25% of the participants reported being very well-informed of their health problem. Cardiovascular disease was the most common comorbid medical condition among the participants of the particular study sample, followed by autoimmune disease, diabetes mellitus and depression.

The results on the SDS and the SAS revealed that 44.6% of patients present a degree of depression. Among patients exhibiting depression, 19.6% of patients had mild, 12% moderate and 13% severe depression. Moreover, 41.5% of the participants reported anxiety symptoms. Among patients exhibiting anxiety, the majority (20.2%) exhibited mild anxiety, whereas 17% of patients exhibited moderate and 4.3% severe anxiety.

Female (p=0.011) as well as housewife/housekeepers and unemployed (p=0.047) experienced higher levels of anxiety. Higher levels of anxiety were experienced from individuals who relapsed (p=0.015), felt severe pain (p<0.001) and took antidepressant or antianxiety medication treatment (p<0.001). There was no statistically significant relationship between anxiety levels and the other socio-demographic and clinical characteristics of the study population (p>0.05) (see table 1).

Individuals who relapsed (p=0.008) and felt severe pain (p=0.001) experienced also higher levels of depression. Moreover, higher levels of depression were experienced in our study by individuals who had quitted their jobs due to their health status (p=0.021) or had experienced a miscarriage (p=0.021). The above individuals with higher levels of depression took antidepressant or antianxiety medication treatment (p<0.001). There was no statistically significant difference in depression symptom severity with regard to the other socio-demographic and clinical characteristics of the study population (p>0.05) (see table 2).

Discussion

More than one-third of respondents had anxiety (41.5%) and depression (44.6%). This is undeniable that patients with rheumatic diseases struggle most of the time to overcome the debilitating nature of their disease and this affects different aspects of their daily life like social and work relationships, family life, and psychological well-being in addition to physical symptoms.[13] Therefore, this contributes to high level of anxiety and stress, which probably justifies the finding of this study. Furthermore, the incapability of these patients to fully manage themselves and maintain their previous roles in family, society, and the lack of productive activities are important factors in triggering depression in those affected by rheumatic diseases. The fact that rates of depression and anxiety are higher in samples of patients with rheumatic diseases is well documented and the results are consistent with the previously described findings in literature.[4,14–16] The lower level of anxiety and depressive symptom severity may be explained by the fact that an individual who gets treatment at a rheumatology outpatient clinic, like our study participants, may represent a popu-

Table 1. Anxiety levels associated with socio-demographic and clinical characteristics in patients with rheumatoid diseases (n=108).

Demographic and clinical characteristics		Anxiety		p
		n	Mean±SD	
Gender	Male	35	35.65±7.91	0.011
	Female	59	40.57±9.35	
Age group (years)	<39	25	35.84±7.65	0.164
	40–49	25	40.40±8.21	
	>50	44	39.45±10.12	
Marital Status	Married/Living with partner	58	38.84±8.53	0.968
	Single/Separated/Divorced/Widowed	34	38.76±10.38	
Level of education	Illiterate/Primary School/Elementary	15	42.66±12.12	0.320
	High School/Secondary	37	38.40±8.53	
	Technological Educational Institute graduates	17	37.11±8.24	
	University graduates/Master degree (MSc)/Doctoral degree (PhD)	25	38.00±8.35	
Employment status	Public servants	13	42.00±8.72	0.047
	Employees in private sector	23	35.04±5.88	
	Medium/small business owners	27	39.62±7.35	
	Housewife/Housekeepers Unemployed	15	42.73±10.16	
	Retired	15	36.46±13.00	
Residence	Athens	71	39.15±8.86	0.462
	Urban area/Rural area	22	37.50±10.18	
Having children	Yes	64	39.20±9.09	0.244
	No	29	36.89±8.07	
Number of children	0	26	37.30±9.25	0.202
	1	23	41.65±8.45	
	2/>2	45	38.08±9.23	
Age of children (years)	None	29	36.96±8.82	0.490
	0–11	17	38.00±8.16	
	12–18	22	40.72±7.12	
	>18	26	39.53±11.33	
Clinical diagnosis	Systemic lupus erythematosus	12	37.50±7.20	0.373
	Rheumatoid arthritis	43	40.09±10.86	
	Ankylosing spondylitis	17	39.23±7.94	
	Psoriatic arthritis	20	35.90±6.38	
Disease duration	0–2 years	17	37.29±7.74	0.685
	3–5 years	17	37.35±8.68	
	6–10 years	21	40.38±10.08	
	>10 years	37	38.35±9.09	

Continues

Table 1. Anxiety levels associated with socio-demographic and clinical characteristics in patients with rheumatoid diseases (n=108) (*Continued*).

Demographic and clinical characteristics		Anxiety		p
		n	Mean±SD	
Disease activity	Relapse	30	42.06±9.67	0.015
	Remission	64	37.18±8.48	
Intensity of pain 11-point Likert scale (0= no pain; 10=maximum possible pain)	No to Mild	44	35.86±7.59	<0.001
	Moderate	29	37.86±9.07	
	Severe	20	46.60±8.29	
Comorbidity	None	51	37.84±8.91	0.532
	Cardiovascular disease/Diabetes mellitus	26	40.07±10.29	
	Autoimmune disease/Depression	15	39.13±7.84	
Quit job	Yes	35	40.47±8.26	0.151
	No	56	37.94±9.35	
Experience of a miscarriage	Yes	35	40.74±8.26	0.151
	No	56	37.94±9.35	
Rheumatological drug use	Yes	79	39.26±9.28	0.571
	No	7	33.14±9.58	
Antidepressant or antianxiety medication use	Yes	27	45.48±9.81	<0.001
	No	67	36.02±7.29	
Health information	Poor	18	41.44±10.77	0.571
	Enough	33	37.81±8.40	
	Good	19	38.05±8.05	
	Very good/excellent	24	38.54±9.69	
Previous experience	Yes	46	39.63±9.13	0.293
	No	47	37.63±9.03	

lation with milder disease then those referred to a public hospital.

The level of anxiety was significantly higher in female than that in male patients. The diagnosis of rheumatic diseases may cause stress and uncertainty in patients and, especially, women who may have more obligations and responsibilities and they realize that they are unable to fulfill those obligations to the extent they could before the onset of this chronic disease. In addition, women are more inclined to experience distress about their appearance and their body and to discuss their psychological problems with others than men. Previous research has highlighted the distress of patients with rheumatic diseases about their appearance.[17,18] There was no statistically significant difference between depression and gender in the present study. This finding was also supported by previous studies.[19,20]

The level of anxiety in our study was higher among those who were unemployed, and depression level was higher among those who had to quit their jobs due to limitations imposed by their disease compared to those who kept working. A consistent body of research highlights the negative impact of rheumatic diseases on employment, with many individuals reporting difficulties with work activities or even having to give up their jobs,

Table 2. Depression levels associated with socio-demographic and clinical characteristics in patients with rheumatoid diseases (n=108).

Demographic and clinical characteristics		Depression		p
		n	Mean±SD	
Gender	Male	35	36.91±11.76	0.185
	Female	59	40.36±12.21	
Age group (years)	<20, 20–29, 30–39	25	37.04±11.22	0.529
	40–49	23	41.00±12.00	
	>50	44	39.18±12.70	
Marital Status	Married/Living with partner	57	38.10±11.56	0.360
	Single/Separated/Divorced/Widowed	34	40.52±13.12	
Level of education	Illiterate/Primary School /Elementary	15	45.00±14.44	0.218
	High School/Secondary	36	38.41±12.35	
	Technological Educational Institute graduates	16	37.43±10.97	
	University graduates/Master degree (MSc)/Doctoral degree (PhD)	25	37.44±10.40	
Employment status	Public servants	12	42.5±11.71	0.111
	Employees in private sector	21	33.23±7.85	
	Medium/small business owners	26	40.19±11.86	
	Housewife/Housekeepers Unemployed	17	42.70±12.12	
	Retired	14	38.71±16.57	
Residence	Athens	71	39.77±11.58	0.516
	Urban area/Rural area	19	37.73±13.87	
Having children	Yes	63	39.41±12.34	0.379
	No	28	37.07±9.93	
Number of children	0	27	38.40±12.04	0.580
	1	21	44.42±12.18	
	2/> 2	44	36.88±11.57	
Age of children (years)	None	30	37.80±11.71	0.795
	0–11	15	40.06±12.46	
	12–18	20	41.05±10.65	
	> 18	27	38.40±13.66	
	Total	92	39.05±12.09	
Clinical diagnosis	Systemic lupus erythematosus	11	39.72±11.39	0.226
	Rheumatoid arthritis	40	41.42±14.17	
	Ankylosing spondylitis	17	38.94±8.77	
	Psoriatic arthritis	22	34.68±10.34	
Disease duration	0–2 years	19	37.15±10.17	0.742
	3–5 years	13	37.61±15.00	
	6–10 years	23	41.08±13.61	
	>10 years	35	38.91±11.35	

Continues

Table 2. Depression levels associated with socio-demographic and clinical characteristics in patients with rheumatoid diseases (n=108) (*Continued*).

Demographic and clinical characteristics		Depression		p
		n	Mean±SD	
Disease activity	Relapse	26	44.34±13.19	0.008
	Remission	66	36.96±11.06	
Intensity of pain 11-point Likert scale (0= no pain; 10=maximum possible pain)	No to Mild	44	35.50±10.37	0.001
	Moderate	30	37.96±12.19	
	Severe	17	49.94±10.49	
Comorbidity	None	27	37.67±11.99	0.769
	Cardiovascular disease/Diabetes mellitus	21	40.88±13.39	
	Autoimmune disease/Depression	44	40.91±10.09	
Quit job	Yes	32	43.28±10.68	0.021
	No	56	37.08±12.54	
Experience of a miscarriage	Yes	32	43.28±10.68	0.021
	No	56	37.08±12.54	
Rheumatological drug use	Yes	80	39.18±12.04	0.300
	No	6	33.83±13.49	
Antidepressant or antianxiety medication use	Yes	26	47.69±12.31	<0.001
	No	65	35.66±10.32	
Health information	Poor	18	44.33±13.62	0.086
	Enough	29	39.72±10.43	
	Good	21	38.47±12.61	
	Very good/excellent	24	34.79±11.37	
Previous experience	Yes	46	39.26±12.69	0.865
	No	44	38.81±11.86	

get invalidity pensions and leave employment prematurely.[21–23] Rheumatic diseases may reduce or restrict a patient's ability to work or perform different tasks. The decline in functional ability in patients with rheumatic conditions, particularly with regard to activities of personal valued significance, is thought to herald the onset of depression.[13] Also, the presence of depression among patients with rheumatic diseases is associated with increased propensity for work disability.[24,25] Psychosocial distress among people with rheumatic diseases may signal the presence of other threats to their well-being, such as economic insecurity.[26]

People with rheumatic diseases have alternating periods of remission and relapse. In our study, relapsed patients experience higher levels of anxiety and depression compared to patients who achieve remission, consistent with other studies that show a positive correlation between depression and anxiety and relapses.[27,28] Rheumatic conditions are accompanied by frequent flare-ups and remissions which form an unpredictable course of disease activity and elicit feelings of uncertainty about the future.[29]

Pain severity was strongly associated with the appearance of anxiety and depression in our study. This is consistent with the findings of other studies.[30,31] Melikoglu & Melikoglu[32] claim that the main cause of depression in rheumatic diseases is pain. Patients typically describe pain as their most disabling symp-

tom. Chronic pain and restriction of physical activity combined with instability of the disease symptoms, clinical progression, and inability to predict the prognosis increase the prevalence of anxiety and depression in rheumatic conditions. It is unclear whether depression is a response to pain in rheumatic diseases or the presence of depression results in an exacerbation/elevation of the pain experience. Depressive disorders are common and frequently associated with chronic pain in sort of vicious circle. The depressive mood reduces the pain threshold and increases pain perception both emotionally and cognitively, while chronic pain first induces strained relationships, reduces perceived self-efficacy, increases disability, causes first demoralization, then true depression.[33–35]

Patients experiencing spontaneous miscarriage because of receiving treatment report higher levels of anxiety and depression than patients who didn't have a similar experience. This finding may be interpreted by the perception of women that rheumatic diseases reduce their hope of childbearing. It is important to emphasize that patients should first discuss with their treating physician the possibility of pregnancy and have follow-up appointments during the course of their pregnancy. Attention is also drawn to the fact that women may have an increased likelihood of miscarriage or experience a worsening of their symptoms during pregnancy or a few weeks or months after the birth of their child.[36,37]

Patients receiving antidepressant or antianxiety medication had significantly higher levels of anxiety and depression. On the one hand, the idea of continuous drug use can augment anxiety complaints.[38] On the other hand, depression and anxiety constitute a risk factor for noncompliance with antidepressant and antianxiety treatment, and this may be predictive for a poor outcome. Such patients might not be adhering to medical advice.[39–41]

Our study has certain limitations. The severity of anxiety and depression were based on self-reported scales and as such, are limited to self-perception rather than a more objective and structured clinical interview. Further studies using such interviews are needed to confirm the present findings. The use of a convenience sample limits the ability to generalize to all patients. Confining our study to ambulant outpatients might have reduced our chances of detecting an association of disease characteristics and anxiety/depression related to rheumatic diseases. The generalizability of our findings is also limited by the relatively small sample and the lack of control group. Observation is made only at a particular duration in time; therefore, it cannot be said whether the observations are a constant factor in the studied population or a finding at only one point in time. Despite these limitations, the results of this study remain valuable in that they explore factors associated with depression and anxiety in Greek patients with rheumatological diseases.

In conclusion, a significant proportion of patients suffering from chronic rheumatological disorders who attended an outpatient rheumatology clinic in Athens suffered from depression and anxiety. Gender, unemployment, disease relapse, and pain are significant factors associated with depression and anxiety. The management of depression and anxiety in rheumatological disorders may be improved by adopting a stepped care approach targeting these factors.

Based on current practice of rheumatology, there is very little provision to detect and treat this important comorbid condition and apply a complete bio-psycho-social model of management for all patients. There are very few rheumatologists who explore these areas with a keen interest because of lack of training or the belief that they would not be able to help. Rheumatologists should familiarize themselves with prescribing practices for depression and anxiety. Alternatively, rheumatologists should consider referral to psychiatric care, particularly in patients with persistent anxiety and depressive symptoms. Ideally, an integrated model involving ongoing collaboration between rheumatologists and mental health specialists, may best provide an effective way of regular screening for and treating comorbid depression and anxiety in this population.[42]

National Institute for Health and Care Excellence (NICE) guidelines recommend that physicians be aware of depression and anxiety among pa-

tients with chronic physical disease. Although the identification of risk factors is relatively difficult and more complex, yet it is clinically important to define such risk factors as it may lead to earlier detection or perhaps even prevention of those psychiatric symptoms.[43]

Άγχος και κατάθλιψη σε ασθενείς με ρευματικές παθήσεις στην πρωτοβάθμια φροντίδα υγείας

Α. Ζαρταλούδη,[1] Ι. Κουτελέκος,[1] Μ. Πολυκανδριώτη,[1] Σ. Στεφανίδου,[1] Δ. Κουκουλάρης,[2] Ε. Κυρίτση[1]

[1]Τμήμα Νοσηλευτικής, Πανεπιστήμιο Δυτικής Αττικής,
[2]Γενικό Νοσοκομείο Νέας Ιωνίας «Κωνσταντοπούλειο», Αθήνα

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Οι ρευματικές παθήσεις είναι χρόνιες εκφυλιστικές καταστάσεις που συσχετίζονται με το άγχος και την κατάθλιψη. Τα άτομα με ρευματικές ασθένειες αντιμετωπίζουν περισσότερη ψυχολογική επιβάρυνση, καθώς αυτές οι καταστάσεις ακολουθούν κυρίως μια επώδυνη, προοδευτικά επιδεινούμενη πορεία. Σκοπός αυτής της μελέτης ήταν η εκτίμηση των επιπέδων άγχους και κατάθλιψης που βιώνουν ασθενείς με ρευματικά νοσήματα, καθώς και παράγοντες που επηρεάζουν τα επίπεδα αυτά. Το δείγμα της μελέτης αποτέλεσαν 108 ασθενείς με ρευματικά νοσήματα που παρακολουθούνται στα εξωτερικά ιατρεία δημόσιας ρευματολογικής κλινικής. Τα δεδομένα συλλέχθηκαν με τη συμπλήρωση της κλίμακας Zung Self-Rating Depression Scale (SDS) και Anxiety Scale (SAS), στην οποία συμπεριελήφθησαν και κοινωνικο-δημογραφικά και κλινικά χαρακτηριστικά των ασθενών. Από τους 108 συμμετέχοντες, το 44,6% και 41,5% βίωνε κατάθλιψη και άγχος αντίστοιχα. Από τους ασθενείς που βίωναν κατάθλιψη, το 13% εμφάνιζε σοβαρή, το 12% μέτρια και το 19,6% ήπια μορφή κατάθλιψης. Από τους ασθενείς που βίωναν άγχος, το 20,2% εμφάνιζε σοβαρό, το 17% μέτριο και το 4,3% ήπιο άγχος. Υψηλότερα επίπεδα κατάθλιψης εμφάνισαν τα άτομα που βίωναν έντονο πόνο (p=0,001), όσοι ήταν σε υποτροπή (p=0,008), όσοι είχαν εγκαταλείψει την εργασία τους, λόγω των περιορισμών της ασθένειας (p=0,021), όσοι είχαν την εμπειρία μιας αποβολής στην εγκυμοσύνη (p=0,021) και όσοι λάμβαναν αντικαταθλιπτική/αγχολυτική αγωγή (p<0,001). Υψηλότερα επίπεδα άγχους εμφάνισαν οι γυναίκες (p=0,011), οι άνεργοι (p=0,047), όσοι βίωναν έντονο πόνο (p<0,001), όσοι ήταν σε υποτροπή (p=0,015) και όσοι λάμβαναν αντικαταθλιπτική/αγχολυτική αγωγή (p<0,001). Στους ασθενείς με ρευματικές παθήσεις θα πρέπει να γίνεται εκτίμηση των επιπέδων άγχους και κατάθλιψης κατά τη διάρκεια της συστηματικής παρακολούθησής τους. Δεδομένου του υψηλού επιπολασμού που εμφανίζουν, του σοβαρού αντίκτυπου που εμφανίζουν στην ποιότητα ζωής των ασθενών και του εύρους των διαθέσιμων αποτελεσματικών θεραπειών που υπάρχουν, οι επαγγελματίες υγείας θα πρέπει να ενθαρρύνονται να αξιολογούν όλους τους ασθενείς τόσο για άγχος όσο και για κατάθλιψη. Είναι σημαντικό να αξιολογούνται τα χαρακτηριστικά των ασθενών κατά την εφαρμογή στρατηγικών αντιμετώπισης ψυχιατρικών διαταραχών σε αυτή την ευάλωτη πληθυσμιακή ομάδα.

Λέξεις ευρετηρίου: Άγχος, κατάθλιψη, ρευματικές παθήσεις, πόνος, πρωτοβάθμια φροντίδα υγείας.

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Corresponding author: A. Zartaloudi, Department of Nursing, University of West Attica, Athens, Greece
e-mail: azarta@uniwa.gr